

# AGGRESSIVE DIAMOND DRILLING Ltd.

3105 Topham Rd. Kelowna, B.C. V1Z 2J5, Tele: (250)769-0487, Fax: (250)769-0497, E-mail: [aggressivediamonddrilling@silkl.net](mailto:aggressivediamonddrilling@silkl.net)

## JKS-SUPER-300

Our JKS SUPER-300 Diamond drill is a lightweight low environmental impact machine that can be mounted on rubber tires and pulled with a truck. It is also designed to disassemble for quick helicopter moves preferably with a Hughes 500-D.

The five main components and weights are:

1. 120 hp Perkins turbo charged engine. @1,100 lbs. This engine consumes approx. 20 gals per 12 hour shift.
2. Mast and Head assembly @600 lbs.
3. Hydraulic power pack @500 lbs.
4. Mud tank with pressure pump and fuel tank attached @1,000 lbs.
5. Skids with wireline attached @980 lbs.
6. One toolbox and tool rack combined @800 lbs.
7. One mud tank or net load with consumables, mud, core boxes, etc. @900 lbs.
8. Drill rods at 210 ft. per load
9. Supply pump and waterline will be combined as one load.
10. Fuel.

This JKS-300 will drill B.T.W. drill rod to a depth of 1,200 ft. the core size is 1 5/8 as NQ is 1 7/8.

When we set up the drill on site we direct the cuttings to a low area where we lay out an absorbent mat to contain the cuttings and let the water disperse. We then collect the cuttings on the mat and put in to a mud tank to be removed and dispersed at the required area.

We have a spill kit at the drill and at the supply pump station. These kits contain 4 ft. long sorbent socks, industrial biodegradable absorbent granular material, absorbent wipes and large plastic disposable bags.

We also lay an absorbent cloth under the engine and hydraulic pack in case of any leaks.

Our supply pump and fuel container are placed in trays to contain any spillage.

Our equipment is very well maintained and in the event of a leak of any kind the machine is immediately shut down and repaired. Any and all garbage is picked up immediately at drill sites.

The amount of drilling water consumed is 8-10 G.P.M.

The main drilling mud we will be using is a polymer GS-550. We may use rod grease occasionally due to hole conditions. All MSDS sheets for any material we may be using are provided with this letter.

Thank You

Mitch McLellan



030228 NWB2 CHU MSDS sheets - LAE

## Material Safety Data / Fiche signalétique

### WESTCOAST DRILLING SUPPLIES LTD.

8069 River Way, Delta, British Columbia,  
Canada V4C 1L3  
Ph. (604) 940-6050 Fax (604) 940-6080

EMERGENCY 1-800-865-6646

### SECTION I: IDENTIFICATION OF PRODUCT

PRODUCT NAME: **CLAY STABILIZER**  
PRODUCT USE: Drilling Fluid Additive  
CHEMICAL FAMILY: Amine salts  
WHMIS CLASSIFICATION: D2B  
WORK PLACE HAZARD: Skin and Eye irritant

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### TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION: not applicable  
PACKAGE GROUP: not applicable  
SHIPPING NAME: not regulated  
PRODUCT IDENTIFICATION NUMBER (Pin): not applicable

### SECTION II: HAZARDOUS INGREDIENTS

INGREDIENTS	PERCENT (%)	CAS #	LD <sub>50</sub> (oral rat)	LD <sub>50</sub> (dermal rabbit)	LC <sub>50</sub> (inhalation rat)
1,6-Hexanediamine	30 - 60	124-09-4	750 mg/kg	1110 mg/kg	not determined
Formic Acid	10 - 30	64-18-6	1100 mg/kg	not determined	not determined

### SECTION III: HEALTH HAZARDS

ROUTE OF ENTRY [XXX] Skin [XXX] Eye Contact [XXX] Inhalation [XXX] Ingestion

THRESHOLD LIMIT VALUE : not determined  
SKIN CONTACT : not expected to be problem under normal conditions of use.  
Liquid may cause irritation.  
Due to the pH of the sample the corrosive properties of the individual components are not present.  
LD<sub>50</sub> (skin, rabbit) 3700 mg/kg based on components.  
INGESTION : Due to the pH of the mixture, the corrosive properties of the individual components are not present in the mixture.  
LD<sub>50</sub> (oral rat) 2200 mg/kg based on components.  
INHALATION : Not expected to be a problem under normal conditions of use.  
Due to the pH of the mixture, individual components have rendered non-volatile.  
4 hour LC<sub>50</sub> (rat) > 3200 mg/m<sup>3</sup> based on components.

### SECTION IV: TOXICOLOGICAL INFORMATION

CARINOGENICITY not determined  
REPRODUCTIVE TOXICITY not determined  
TERATOGENICITY not determined  
MUTAGENICITY not determined  
DEVELOPMENTAL TOXICITY not determined

**Material Safety Data / Fiche signalétique****WESTCOAST DRILLING SUPPLIES LTD.**

8066 River Way, Delta, British Columbia,  
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Ph. (604) 940-6050 Fax (604) 940-6080

EMERGENCY 1-800-885-8845

**SECTION I: IDENTIFICATION OF PRODUCT**

**PRODUCT NAME:** X-TRA GEL  
**CHEMICAL FAMILY:** Sodium Montmorillonite  
**WHMIS CLASSIFICATION:** Class D-2(A)  
**WORK PLACE HAZARD:** Potential Carcinogen: contains free silica

10F2

**TRANSPORTATION OF DANGEROUS GOODS (TDGR)**

**CLASSIFICATION:** Not Dangerous Goods  
**PACKAGE GROUP:** Not applicable  
**PRODUCT IDENTIFICATION NUMBER (PIN):** Not applicable

**SECTION II: HAZARDOUS INGREDIENTS**

INGREDIENT	PERCENTAGE	CAS NUMBER	OSAH PEL	ACGIH TLV
Bentonite		1302-78-9	5 mg/M	Not applicable
Quartz (Silica)		14808-60-7	10 mg/M	0.1 mg/M
Crystobalite		14464-46-1	10 mg/M	0.05 mg/M
Tridymite		15468-32-3	10 mg/M	0.05 mg/M

**SECTION III: TOXICOLOGICAL PROPERTIES****ROUTE OF ENTRY:**

[ ] Skin, [ ] Eye Contact, [XXX] Inhalation, [ ] Ingestion

**ACUTE - SHORT TERM EXPOSURE:**

Cough if exposed to dust at levels higher than TLV's.

**CHRONIC - LONG TERM EXPOSURE:**

May lead to development of silicosis or other respiratory problems if consistently exposed to free silica containing airborne bentonite.

**SECTION IV: FIRST AID MEASURES**

No first aid measures are suggested for chronic (long term exposure). For acute (short term exposure) remove patient from dusty environment.

**SECTION V: PHYSICAL DATA**

**APPEARANCE AND ODOR:** Pale gray to buff powder or granules; Odorless.  
**DENSITY (SPECIFIC GRAVITY):** 2.35  
**BOILING POINT:** Not applicable  
**MELTING POINT:** 788° C  
**WATER SOLUBILITY:** Insoluble; forms colloidal suspension.  
**% VOLATILE BY VOLUME:** Not applicable  
**EVAPORATION RATE:** Not applicable  
**VAPOR PRESSURE: (mm Hg)** Not applicable  
**VAPOR DENSITY: (Air = 1)** Not applicable  
**pH:** 7 - 6

**SECTION VI: FIRE AND EXPLOSION HAZARD DATA**

**FLASH POINT:** Not applicable  
**FLAMMABLE LIMIT:** Not applicable



**WESTCOAST DRILLING SUPPLIES LTD.**

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Toll Free: 1-800-686-6446

**X-TRA GEL**

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EXTINGUISHING MEDIA: Not applicable  
SPECIAL FIRE FIGHTING PROCEDURES: Not applicable  
UNUSUAL FIRE AND EXPLOSION HAZARDS: Not applicable

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**SECTION VII: REACTIVITY DATA**

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STABLE [XXX] INSTABLE [ ]  
INCOMPATIBILITY (CONDITIONS TO AVOID): None  
HAZARDOUS DECOMPOSITION PRODUCTS: None  
HAZARDOUS POLYMERIZATION: Will not occur [XXX] May occur [ ]

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**SECTION VIII: PREVENTATIVE MEASURES**

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RESPIRATORY PROTECTION: NIOSH/MSHA approved respirators for silica bearing dust.  
VENTILATION: Yes if particular; Personal air supply may be useful.  
PROTECTIVE GLOVES: None required  
EYE PROTECTION: Suggest goggles  
OTHER PROTECTIVE EQUIPMENT: None required

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:**

Avoid breathing dust; wear an approved respirator. Practice reasonable caution and personal cleanliness. Avoid eye contact.

**STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK:**

Vacuum or sweep up if dry. Avoid flushing with water as material may become extremely slippery.

**WASTE DISPOSAL METHOD:**

Dispose of material in a manner to prevent generating dust.

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**SECTION IX: PREPARATION**

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The information contained herein is given in good faith, but no warranty, expressed or implied is made.

DATE ISSUED: November 10, 1988

DATE REVISED: April 1, 2000

BY: Product Safety Committee

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**Material Safety Data Sheet / Fiche signalétique****WESTCOAST DRILLING SUPPLIES LTD.****EMERGENCY 1-800-665-6645**

8069 River Way, Delta, British Columbia,  
Canada V4G 1L3  
Ph. (604) 940-6050 Fax (604) 940-6080

**SECTION I: IDENTIFICATION OF PRODUCT**

**PRODUCT NAME:** **BIG BEAR DIAMOND DRILL ROD GREASE**  
**CHEMICAL FAMILY:** Hydrocarbon  
**WHMIS CLASSIFICATION:** Not regulated  
**WORK PLACE HAZARD:** Not applicable

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**TRANSPORTATION OF DANGEROUS GOODS (TDGR)**

**CLASSIFICATION:** Not regulated  
**PACKAGE GROUP:** Not applicable  
**PRODUCT IDENTIFICATION NUMBER (PIN):** Not applicable

**SECTION II: HAZARDOUS INGREDIENTS**

INGREDIENT	PERCENTAGE	CAS NUMBER	LD50	LC50
Severely hydrotreated naphthenic oils	< 75.00%	64742-52-5	>3 g/kg (Dermal Rabbit) >5 g/kg (Oral Rat)	N/D
Barium soap	< 35.00%	68201-19-4	Not determined	

**SECTION III: TOXICOLOGICAL PROPERTIES**

**ROUTE OF ENTRY:**  
[XXX] Skin, [ ] Eye Contact, [ ] Inhalation, [ ] Ingestion

**SKIN CONTACT:** Acute exposure is believed to be minimally irritating

**EYE CONTACT:** Acute exposure is believed to be minimally irritating.

**INHALATION:** Believed to be minimally irritating if not in excess of permissible concentrations; see Section VIII.

**INGESTION:** Not available

**CHRONIC OVEREXPOSURE:** Not determined

**IRRITATION INDEX:** SKIN: Believed to be 1.0 - 2.0/8.0 (Rabbit); slightly irritating  
EYES: Believed to be <15/110 (Rabbit); no appreciable effect

**SYMPTOMS OF EXPOSURE:** None expected other than possible minor irritation. Considered practically non-toxic.

**SECTION IV: FIRST AID MEASURES**

**SKIN CONTACT:** None considered necessary.

**EYE CONTACT:** As with most foreign materials, should eye contact occur, flush eyes with plenty of water.

**INHALATION:** None considered necessary.

**INGESTION:** None considered necessary. Do not induce vomiting.

**OTHER INSTRUCTIONS:** In some cases of ingestion and/or inhalation, medical attention should be obtained.

**SECTION V: PHYSICAL DATA**

**APPEARANCE AND ODOR:** Brownish yellow, fibrous grease

**DENSITY (SPECIFIC GRAVITY):** >1.0

**BOILING POINT:** 700° F

**MELTING POINT:** 400° F

**WATER SOLUBILITY:** Negligible

**% VOLATILE BY VOLUME:** Not determined



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## BIG BEAR DIAMOND DRILL ROD GREASE

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EVAPORATION RATE:	Not determined
VAPOR PRESSURE (mm Hg):	Not determined (low)
VAPOR DENSITY (Air =1):	>1.0
pH:	Not applicable
VISCOSITY:	NLGI No. 3-4 grease

### SECTION VI: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	>350° F (COC Method)
FLAMMABLE LIMIT:	Not determined
EXTINGUISHING MEDIA:	According to the National Fire Protection Association Guide, use water spray. Dry chemical, Foam, Carbon Dioxide CO <sub>2</sub> . Water or foam may cause frothing.
SPECIAL FIRE FIGHTING PROCEDURES:	Use water to cool fire-exposed containers. If a leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for persons attempting to stop the leak. See Hazardous Decomposition Products, Section VII.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	None

### SECTION VII: REACTIVITY DATA

STABLE [XXX] INSTABLE [ ] Info not available	
INCOMPATIBILITY (CONDITIONS TO AVOID):	Strong oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS:	This material decomposes at a high temperature to form carbon monoxide, carbon dioxide, aldehydes and ketones, combustion products of nitrogen and sulphur.
HAZARDOUS POLYMERIZATION:	Will not occur (XXX) May occur [ ]

### SECTION VIII: PREVENTATIVE MEASURES

RESPIRATORY PROTECTION:	None required if exposures are within the permissible concentrations. See below
VENTILATION:	Natural dilution
PROTECTIVE GLOVES:	Neoprene
EYE PROTECTION:	Chemical type goggle or face shield optional
OTHER PROTECTIVE EQUIPMENT:	Standard work clothing and work shoes.
PERMISSIBLE CONCENTRATIONS: AIR:	5mg/cubic metre of air for mineral oil mist averaged over an 8 hour daily exposure (ACGIH 1986 - 87)

### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Exposed persons should exercise reasonable personal cleanliness; this includes cleansing exposed skin areas several times daily with soap and water and laundering or dry cleaning soiled work clothing at least weekly. Minimum feasible handling temperatures should be maintained. Periods of exposure to high temperatures should be minimized. Water contamination should be avoided.



**WESTCOAST DRILLING SUPPLIES LTD.**  
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## **BIG BEAR DIAMOND DRILL ROD GREASE**

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### **STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK:**

Contain spill if possible. Wipe up or absorb on suitable material and shovel up.

### **WASTE DISPOSAL METHOD:**

Re-evaluation of the product may be required by the user at the time of disposal, since the product uses, transformations, mixtures and processes may influence waste classification. Disposal should be in accordance with applicable federal, provincial and local regulations.

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### **SECTION IX: PREPARATION**

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The information contained herein is given in good faith, but no warranty, expressed or implied is made.

DATE ISSUED: September 17, 1993

BY: Product Safety Committee

DATE REVISED: April 1, 2000



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Mitch Mclellan

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**SECTION 8—FIRST AID MEASURES****Eye Contact:**

No first aid procedures are required. However, as a precaution flush eyes with fresh water for 15 minutes. Remove contact lenses if worn.

**Skin Contact:** Remove contaminated clothing and wash skin thoroughly with soap and water. See a doctor if any signs or symptoms described in this document occur. Discard contaminated non-waterproof shoes and boots. Wash contaminated clothing.

**Inhalation:** If any signs or symptoms described in this document occur, move the person to fresh air. If any of these effects continue, see a doctor.

**Ingestion:** If swallowed, give water or milk to drink and telephone for medical advice. DO NOT make person vomit unless directed to do so by medical personnel. If medical advice cannot be obtained, then take the person and product container to the nearest medical emergency treatment centre or hospital. **Note to Physicians:** Ingestion of this product or subsequent vomiting can result in aspiration of light hydrocarbon liquid which can cause pneumonitis.

**SECTION 9—ADDITIONAL HEALTH DATA**

This product contains a mixture of petroleum hydrocarbons called middle distillates (which means they boil between approximately 350°F and 700°F). Because of this broad description, many products are considered middle distillates yet they are produced by a variety of different petroleum refining processes. Toxicology data developed on some middle distillates found that they caused positive responses in some mutagenicity tests and caused skin cancer when repeatedly applied to mice over their lifetime. This product may contain some middle distillates found to cause those adverse effects.

Whole diesel engine exhaust was reviewed by the International Agency for Research on Cancer (IARC) in their Monograph 46 (1989). Evidence for causing cancer was considered sufficient in animals and limited in humans. IARC placed this material in Category 2A, considering it probably carcinogenic to humans.

The National Institute of Occupational Safety and Health (NIOSH) has recommended the whole diesel exhaust be regarded as potentially causing cancer. This recommendation was based on test results showing increased lung cancer in laboratory animals exposed to whole diesel exhaust. The excess risk of cancer for people exposed to diesel exhaust has not been determined, as studies on exposed workers have been inconclusive. It is recommended that exposure to diesel exhaust be minimized to reduce the potential cancer risk.

**SEPARATION DATE OF MSDS**

ISSUED BY (GROUP, DEPARTMENT, ETC.)

CYTOR Canada Limited

PHONE NUMBER

(604) 668-5554

DATE

April 24, 1992



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## PRODUCT IDENTIFIER

Chevron Diesel Fuel No. 2

## SECTION 7—PREVENTIVE MEASURES

## PERSONAL PROTECTIVE EQUIPMENT

## GLOVES (SPECIFY)

Nitrile, Viton, polyvinyl alcohol (avoid contact with water, as polyvinyl alcohol gloves deteriorate in water).

## RESPIRATOR (SPECIFY)

This material may be an inhalation hazard and, unless ventilation is adequate, the use of an air-purifying respirator with an organic vapour cartridge is recommended.

## EYE (SPECIFY)

None

## FOOTWEAR (SPECIFY)

N/AV

## CLOTHING (SPECIFY)

Protective Clothing

## OTHER (SPECIFY)

N/AV

## ENGINEERING CONTROLS (SPECIFY, E.G. VENTILATION, ENCLOSED PROCESS)

Use this material only in well ventilated areas.

**LEAK AND SPILL PROCEDURE** This material is considered to be a water pollutant, and release of this product should be prevented from contaminating soil and water and from entering drainage and sewer systems. Eliminate all open flame in vicinity of spill or released vapour. Stop the source of the leak or release. Clean up spills as soon as possible, observing precautions in Section 7 Preventive Measures. Contain liquid to prevent further contamination of soil, surface water or groundwater. Clean up small spills using appropriate techniques such as sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases.

## WASTE DISPOSAL

Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

**HANDLING PROCEDURES AND EQUIPMENT** DO NOT USE OR STORE near flame, sparks or hot surfaces. USE ONLY IN WELL VENTILATED AREA. Keep container closed. DO NOT weld, heat or drill container. Replace cap or bung. Emptied container still contains hazardous or explosive vapour or liquid. CAUTION! Do not use pressure to empty drum or drum may rupture with explosive force.

**WARNING!** Not for use as portable heater or appliance fuel. Toxic fumes may accumulate and cause death.

## STORAGE REQUIREMENTS

DO NOT STORE near flames, sparks or hot surfaces.

## SPECIAL SHIPPING INFORMATION

N/AV

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## SECTION 4—FIRE AND EXPLOSION DATA

FLAMMABILITY  
YES ☒ NO ☐ IF YES, UNDER WHICH CONDITIONS? Combustible—Liquid evaporates and forms vapour (fumes) that can catch fire and burn with explosive violence. Fire hazard is greater as liquid temperature rises above 85°F.

MEANS OF EXTINCTION CO<sub>2</sub>, dry chemical, foam and water fog.

FLASH POINT (°C) AND METHOD

52°C (P-M)

UPPER FLAMMABLE LIMIT (% BY VOLUME)

N/AV

LOWER FLAMMABLE LIMIT (% BY VOLUME)

N/AV

AUTOIGNITION TEMPERATURE (°C)

N/AV

HAZARDOUS COMBUSTION PRODUCTS

Carbon Monoxide

EXPLOSION DATA:

SENSITIVITY TO IMPACT

N/AV

SENSITIVITY TO STATIC DISCHARGE

N/AV

## SECTION 5—REACTIVITY DATA

CHEMICAL STABILITY

YES ☒ NO ☐ IF NO, UNDER WHICH CONDITIONS?

INCOMPATIBILITY WITH OTHER SUBSTANCES

YES ☒ NO ☐ IF SO, WHICH ONES?

May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

REACTIVITY, AND UNDER WHAT CONDITIONS

N/AV

HAZARDOUS DECOMPOSITION PRODUCTS

N/AV

## SECTION 6—TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY

SKIN CONTACT

☒

SKIN ABSORPTION

☐

EYE CONTACT

☐

INHALATION

☒

INGESTION

☐

EFFECTS OF ACUTE EXPOSURE TO PRODUCT

This substance is a moderate skin irritant, so contact with the skin could cause prolonged (days) injury to the affected area. The degree of injury will depend on the amount of material that gets on the skin and the speed and thoroughness of the first aid treatment. Signs and symptoms may include pain or a feeling of heat, discoloration, swelling and blistering. Because of the low viscosity of this substance, it can directly enter the lungs if it is swallowed. This can occur during the act of swallowing or when vomiting the substance. Once in the lungs, the substance is very difficult to remove and can cause severe injury to the lungs and death.

EFFECTS OF CHRONIC EXPOSURE TO PRODUCT

Prolonged breathing of vapours can cause central nervous system effects. Signs and symptoms of central nervous system effects may include one or more of the following: headache, dizziness, loss of appetite, weakness and loss of coordination. Not expected to cause prolonged or significant eye irritation and should be practically nontoxic to internal organs if it gets on skin or is swallowed. The dermal LD50 in rabbits is >5 ml/kg and the oral LD50 in rats is >5 ml/kg.

EXPOSURE LIMITS

N/AV

TERATOGENICITY

N/AV

IRRITANCY OF PRODUCT

Yes. See Effects of Acute Exposure to Product

REPRODUCTIVE TOXICITY

N/AV

SENSITIZATION TO PRODUCT

N/AV

MUTAGENICITY

See Section 9

CARCINOGENICITY

See Section 9

SYNERGISTIC PRODUCTS

N/AV



# MATERIAL SAFETY DATA SHEET

N/A = Not Applicable  
N/AV = Not Available

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SECTION 1—PRODUCT IDENTIFICATION AND USE				MSDS 325
PRODUCT IDENTIFIER <b>Chevron Diesel Fuel No. 2</b>			PRODUCT IDENTIFICATION NUMBER (PIN) <b>UN 1202</b>	
PRODUCT USE <b>Fuel</b>				
SUPPLIER NAME <b>Chevron Canada Limited</b>			MANUFACTURER NAME <b>Chevron Canada Limited</b>	
STREET ADDRESS <b>1500 - 1050 West Pender Street</b>			STREET ADDRESS <b>1500 - 1050 West Pender Street</b>	
CITY <b>Vancouver</b>	PROVINCE <b>B.C.</b>	CITY <b>Vancouver</b>	PROVINCE <b>B.C.</b>	
POSTAL CODE <b>V6E 3T4</b>	EMERGENCY TELEPHONE NO. <b>1-800-457-2022</b>	POSTAL CODE <b>V6E 3T4</b>	EMERGENCY TELEPHONE NO. <b>1-800-457-2022</b>	

SECTION 2—HAZARDOUS INGREDIENTS				
HAZARDOUS INGREDIENTS	%	CAS NUMBER	LD <sub>50</sub> OF INGREDIENT (SPECIFY SPECIES AND ROUTE)	LD <sub>50</sub> OF INGREDIENT (SPECIFY SPECIES)
Fuels, diesel, No. 2	100	68476346	9.0 ml/kg, rat, acute oral	N/AV

SECTION 3—PHYSICAL DATA				
PHYSICAL STATE <b>Liquid</b>	COLOUR AND APPEARANCE <b>pale yellow liquid with a petroleum odour</b>			COLOUR THRESHOLD (SW) <b>N/AV</b>
VAPOUR PRESSURE (SW) (Pa) <b>0.04 Pa @ 40°C</b>	VAPOUR DENSITY (AIR=1) <b>N/AV</b>	EVAPORATION RATE <b>N/AV</b>	BOILING POINT (°C) <b>176 - 370°C</b>	FREEZING POINT (°C) <b>N/AV</b>
SM <b>N/AV</b>	SPECIFIC GRAVITY (typical) <b>0.84 @ 15.6/15.6°C</b>	COEFF. WATER/OIL DIST. <b>N/AV</b>		



# MATERIAL SAFETY DATA SHEET

N/AP = Not Applicable  
N/AV = Not Available

<b>SECTION 1—PRODUCT IDENTIFICATION AND USE</b>		<b>MSDS 485</b>	
<b>PRODUCT IDENTIFIER</b> Chevron Polyurea EP Grease 2		<b>PRODUCT IDENTIFICATION NUMBER (PIN)</b> N/AP	
<b>PRODUCT USE</b> Machinery lubricant			
<b>SUPPLIER'S NAME</b> Chevron Canada Limited		<b>LOCAL SUPPLIER'S NAME</b> Chevron U.S.A.—Lubricants	
<b>STREET ADDRESS</b> 1500 - 1050 West Pender Street		<b>STREET ADDRESS</b> 575 Market Street	
<b>CITY</b> Vancouver	<b>PROVINCE</b> B.C.	<b>CITY</b> San Francisco	<b>PROVINCE</b> California
<b>PORTAL CODE</b> V6E 374	<b>EMERGENCY TELEPHONE NO.</b> 1-800-457-2022	<b>PORTAL CODE</b> 96105	<b>EMERGENCY TELEPHONE NO.</b> 1-800-457-2022

SECTION 2—HAZARDOUS INGREDIENTS				
HAZARDOUS INGREDIENTS	%	CAS NUMBER	LD <sub>50</sub> OF INGREDIENT (SPECIFY SPECIES AND ROUTE)	LD <sub>50</sub> OF INGREDIENT (SPECIFY SPECIES)
2, 4 Diaminotoluene	0 - 0.1	95807	N/AV	N/AV
Lubricating base oil	75 - 85	Mixture of any of the following	N/AV	N/AV
		64741884 64741895 64741964		
		64741975 64742014 64742525		
		64742536 64742547 64742627		
		64742630 72623837		

<b>SECTION 3—PHYSICAL DATA</b>				
<b>PHYSICAL STATE</b> Grease	<b>ODOUR AND APPEARANCE</b> Dark green grease with typical petroleum odour			<b>ODOUR THRESHOLD ppm</b> N/AV
<b>VAPOUR PRESSURE (mm Hg)</b> <1 mm Hg @ 40°C	<b>VAPOUR DENSITY (AIR=1)</b> N/AV	<b>EVAPORATION RATE</b> N/AV	<b>BOILING POINT (°C)</b> N/AP	<b>FREEZING POINT (°C)</b> N/AP
<b>pH</b> N/AV	<b>SPECIFIC GRAVITY</b> 0.95 @ 15.6/15.6C		<b>COEFF. WATER/OIL DIST.</b> N/AV	

# Material Safety Data Sheet / Fiche signalétique

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EMERGENCY 1-800-665-6645

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## SECTION I: IDENTIFICATION OF PRODUCT

**PRODUCT NAME:** 550X POLYMER  
**CHEMICAL FAMILY:** Copolymer of Acrylamide and Sodium Acrylate  
**PRODUCT USE:** Drilling Mud Additive  
**WHMIS CLASSIFICATION:** Not a Controlled Product under WHMIS  
**WORK PLACE HAZARD:** Not applicable

## TRANSPORTATION OF DANGEROUS GOODS (TDGR)

**CLASSIFICATION:** Not applicable  
**PACKAGE GROUP:** Not applicable  
**PRODUCT IDENTIFICATION NUMBER (PIN):** Not applicable

## SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	PERCENTAGE	CAS NUMBER	LD50	LC50
No Hazardous Ingredients				

## SECTION III: TOXICOLOGICAL PROPERTIES

**ROUTE OF ENTRY:**  
[ ] Skin, [ ] Eye Contact, [XXX] Inhalation, [ ] Ingestion

**SKIN CONTACT:** Prolonged contact may cause skin irritation or dermatitis in some individuals.  
**EYE CONTACT:** May cause irritation.  
**INHALATION:** May cause sneezing, slight irritation of nose and throat.  
**INGESTION:** Not available  
**EFFECTS OF ACUTE EXPOSURE:** Not available  
**EFFECTS OF CHRONIC EXPOSURE:** Not available

## SECTION IV: FIRST AID MEASURES

**SKIN CONTACT:** Wash exposed area with soap and water. If irritation or abnormalities persist, call a physician.  
**EYE CONTACT:** Immediately flush eyes with water for fifteen (15) minutes and call a physician.  
**INHALATION:** Remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.  
**INGESTION:** Do not induce vomiting. If conscious, dilute by giving two glasses of water. Call a physician immediately.

## SECTION V: PHYSICAL DATA

**APPEARANCE AND ODOR:** White granular solid; faint odor  
**DENSITY (SPECIFIC GRAVITY):** 0.80  
**BOILING POINT:** Decomposes  
**MELTING POINT:** Not applicable  
**WATER SOLUBILITY:** Soluble  
**% VOLATILE BY VOLUME:** Not applicable  
**EVAPORATION RATE:** Not applicable  
**VAPOR PRESSURE (mm Hg):** Very low  
**VAPOR DENSITY (Air = 1):** Not applicable

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**SECTION V: PHYSICAL DATA**

APPEARANCE	White granular solid
ODOR	None
SPECIFIC GRAVITY	0.8 at 25° C (77 F)
BOILING POINT (°C)	Not applicable
MELTING POINT (°C)	Not determined
SOLUBILITY IN WATER	Forms a gel
PERCENT VOLATILE BY VOLUME	Not determined
EVAPORATION RATE	Not determined
VAPOR PRESSURE (mm Hg)	Not determined
VAPOR DENSITY (Air=1)	Not determined
pH	4 - 9 @ 5g/L

**SECTION VI: FIRE AND EXPLOSION HAZARD DATA**

FLASH POINT	93° C (200 F)
FLAMMABLE LIMITS	Not determined
EXTINGUISHING MEDIA	Dry Chemical, Carbon Dioxide
SPECIAL FIRE FIGHTING PROCEDURES	Aqueous solutions or powders that become wet render surfaces extremely slippery.
UNUSUAL FIRE AND EXPLOSION HAZARDS	No special equipment required.

**SECTION VII: REACTIVITY DATA**

STABILITY	[XXX] Stable [ ] Unstable
INCOMPATIBILITY (Conditions to avoid)	Oxidizing agents
CONDITIONS OF REACTIVITY	Not known
HAZARDOUS DECOMPOSITION PRODUCTS	NO <sub>x</sub> , CO <sub>x</sub>
HAZARDOUS POLYMERIZATION	[XXX] Will not occur [ ] May occur

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**SECTION VIII: PREVENTIVE MEASURES****SPECIAL PROTECTION INFORMATION****RESPIRATORY PROTECTION**

Dust masks are recommended where concentration of total dust is more than 10 mg/m<sup>3</sup>

**VENTILATION**

General mechanical

**PROTECTIVE GLOVES**

Chemically resistant

**EYE PROTECTION**

Safety glasses with side shields

**OTHER PROTECTIVE EQUIPMENT (Specify)**

Not known

**ACCIDENTAL RELEASE MEASURES****STEPS TO BE TAKEN IN CASE THE MATERIAL IS SPILLED OR RELEASED**

Do not flush with water. Clean up promptly by sweeping or vacuum

Keep in suitable and closed containers for disposal.

After cleaning, flush away trace with water.

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING**

Avoid contact with skin and eyes. Avoid dust formation. Do not breathe dust. Wash hands before breaks and at the end of the day. Keep in a cool dry place (0 - 30 °C)

**WASTE DISPOSAL METHOD**

Can be land filled or incinerated, when in compliance with local, provincial and federal regulations.

**SECTION IX: TOXICOLOGICAL INFORMATION****CARCINOGENICITY**

Not determined

**REPRODUCTIVE TOXICITY**

Not determined

**TERATOGENICITY**

Not determined

**MUTAGENICITY**

Not determined

**DEVELOPMENTAL TOXICITY**

Not determined

**CHRONIC EFFECTS:**

This product does not contain any ingredient designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.



# Material Safety Data / Fiche signalétique

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**SECTION X: PREPARATION**

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DATE ISSUED: August, 2001

DATE REVISED: August, 1998

BY: Product Safety Committees

**AMENDMENT**
**HAZARDOUS INGREDIENTS (550X)**

Material or component	WT% Hazard data
COPOLYACRYLAMIDE/SODIUM ACRYLATE	Not considered hazardous

**ENVIRONMENTAL**

DEGRADABILITY/AQUATIC TOXICITY:	Not determined
OCTANOL/WATER PARTITION COEFFICIENT	Not determined
WASTE DISPOSAL METHODS:	Incineration and/or disposal in Chemical Landfill. Disposer must comply with federal, provincial and local disposal or discharge laws.

RCRA STATUS OF UNUSED MATERIAL  
IF DISCARDED:

Not a "Hazardous Waste"

HAZARDOUS WASTE NUMBER:

Not available

REPORTABLE QUANTITY:

EPA 40 CFR (CERCLA 102):

Not applicable

THRESHOLD PLANNING QUANTITY:

EPA 40 CFR 355 (SERA 301-304):

Not applicable

TOXIC CHEMICAL RELEASE REPORTING:

EPA 40 CFR 372 (SERA 311-313):

Not applicable

EPA HAZARD CLASSIFICATION CODE:

ACUTE - Yes

CHRONIC - No

FIRE - No

PRESSURE - No

REACTIVE - No

HMIS AND NFPA RATINGS:

HMIS

NFPA

HEALTH

1

1

FLAMMABILITY

0

0

REACTIVITY

1

1

SPECIAL

Not applicable

Not applicable

**SECTION IX: PREPARATION**

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DATE ISSUED: January 1, 1991

BY: Product Safety Committees